

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 March 2001 (01.03.2001)

PCT

(10) International Publication Number
WO 01/14518 A2

(51) International Patent Classification⁷: C12N

(21) International Application Number: PCT/US00/18790

(22) International Filing Date: 23 August 2000 (23.08.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/150,761 26 August 1999 (26.08.1999) US
PCT/US99/19498 26 August 1999 (26.08.1999) US
09/383,588 26 August 1999 (26.08.1999) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier applications:

US	60/150,761 (CIP)
Filed on	26 August 1999 (26.08.1999)
US	PCT/US99/19498 (CIP)
Filed on	26 August 1999 (26.08.1999)
US	09/383,588 (CIP)
Filed on	26 August 1999 (26.08.1999)

(71) Applicant (for all designated States except US): NORTH-WEST PLANT BREEDING CO. [US/US]; 2001 Country Club Road, Pullman, WA 99163 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KONZAK, Calvin, F. [US/US]; 1725 N.E. Wheatland Drive, Pullman, WA

99163 (US). POLLE, Enrique, A. [CL/US]; 400 N.W. North Street, Pullman, WA 99163 (US). LIU, Weiguo [CN/US]; Apartment 206, 405 S.E. Jordan Road, Pullman, WA 99163 (US). ZHENG, Yuanming [US/US]; 460 NW Thomas Street, Pullman, WA 99163 (US).

(74) Agent: McGURL, Barry, F.; Christensen O'Connor Johnson Kindness PLLC, Suite 2800, 1420 Fifth Avenue, Seattle, WA 98101 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— Without international search report and to be republished upon receipt of that report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS FOR GENERATING DOUBLED HAPLOID PLANTS

(57) Abstract: The present invention provides methods for generating doubled haploid and/or haploid plants from microspores. The methods of the invention include the steps of (a) purifying microspores at a developmental stage amenable to androgenic induction; (b) subjecting said microspores to nutrient stress to obtain stressed microspores; (c) contacting said microspores with an amount of a sporophytic development inducer effective to induce sporophytic development, said contacting step occurring before, during, after, or overlapping with any portion of said nutrient stress step; and (d) culturing said isolated microspores with at least one live plant ovary or with an aliquot of plant ovary conditioned medium. The methods of the present invention can also include the step of genetically transforming the microspores to produce genetically transformed plants.

WO 01/14518 A2